

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

C.A. No. 1:19-cv-12551-FDS

Hon. F. Dennis Saylor IV

**SUPPLEMENTAL BRIEFING ON GOOGLE’S OPPOSITION TO SINGULAR’S
MOTION FOR SUMMARY JUDGMENT OF VALIDITY BASED UPON IPR
ESTOPPEL UNDER 35 U.S.C. § 315(e)(2)**

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I. INTRODUCTION

On the law, Singular improperly seeks to estop Google from presenting prior art systems that could not have been raised in *inter partes* review (“IPR”). On the facts, Singular ignores the evidence that Google has assembled, including key fact witnesses and unpublished documentary evidence. That evidence is both different than and not cumulative of the printed publications, which do not address all claim elements. Accordingly, Google respectfully requests that Singular’s motion be denied.

II. ARGUMENT

A. The statutory framework does not estop Google from presenting its system-based prior art invalidity arguments.

1. Because IPRs are limited to patents and printed publications, IPR estoppel cannot preclude invalidity challenges based on system prior art.

The scope of the estoppel provision begins and ends with the text of the statute. *See Gross v. FBL Fin. Servs., Inc.*, 557 U.S. 167, 175 (2009) (“Statutory construction must begin with the language employed by Congress and the assumption that the ordinary meaning of that language accurately expresses the legislative purpose.”). The estoppel provision states:

The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising under section 1338 of title 28...that the claim is invalid on **any ground that the petitioner raised or reasonably could have raised** during that inter partes review.

35 U.S.C. § 315(e)(2) (emphasis added). In other words, what is barred from being asserted at the district court is any **ground** that was (i) actually raised or (ii) that reasonably could have been raised by a petitioner like Google.

Subsection 311(b), entitled “Inter partes review,” provides the bounds of the estopped

grounds of § 315(e)(2): a petitioner may challenge a patent claim as unpatentable “only on a ground that could be raised under section **102** [anticipation] or **103** [obviousness]” and further “only on the basis of prior art **consisting of patents or printed publications.**” (emphasis added); *see also In re DMF, Inc.*, 858 F. App’x 361, at *362 (Fed. Cir. 2021) (considering “the scope of statutory estoppel under 35 U.S.C. § 315(e)(2)” as governed by § 311(b)’s definition of “grounds”). In an IPR, Google could thus only raise an anticipation or obviousness ground that was premised on the contention that Singular’s invention was “patented or described in a printed publication in this or a foreign country.” § 102(a)-(b) (pre-AIA). It follows that the other prior art grounds identified in §§ 102 and 103 cannot be raised in an IPR—namely, those grounds based on prior art that was “known or used by others,” § 102(a); that was “in public use,” § 102(b); that was “on sale,” § 102(b); or that was “made in this country by another,” § 102(g) (*i.e.*, “system prior art” grounds).¹ Thus, a petitioner is only estopped from raising invalidity grounds at the district court that challenge the patent as anticipated or obvious because it was “patented or described in a printed publication in this or a foreign country”; more broadly interpreting “ground” as encompassing *any* anticipation (§ 102) or obviousness (§ 103) argument would swallow the statutory rule that IPRs may only be sought on this subset of § 102 prior art. Accordingly, a petitioner is not estopped from raising grounds based on system prior art.

2. **The Federal Circuit has acknowledged that system prior art is not subject to statutory estoppel.**

As Google explained in its opposition brief, the Federal Circuit has repeatedly endorsed the understanding that system prior art cannot be the basis of an IPR ground and is thus not subject to estoppel under § 315(e)(2). *See* Dkt. No. 392 (“Opp.”) at 20 (collecting cases). Indeed, just last

¹ The statutory citations cited here are to the “pre-AIA” version of §§ 102 and 103.

year the Federal Circuit explained that § 311(b) “restrict[s] the ‘prior art’ which may form a basis of a ground to prior art documents,” excluding “some of the more challenging types of prior art identified in 35 U.S.C. § 102, such as commercial sales and public uses” from being the basis of grounds that could be raised in an IPR. *Qualcomm Inc. v. Apple Inc.*, 24 F.4th 1367, 1376 (Fed. Cir. 2022). Multiple district courts have reached the same conclusion. *See* Opp. at 18 (collecting cases). So, too, has the Patent Trial and Appeal Board (“PTAB”). *See, e.g., Becton, Dickinson & Co. v. Baxter Corp.*, 2019 WL 1979703, at *7 (P.T.A.B. May 3, 2019) (denying institution of an IPR petition that sought to raise prior art made by another under § 102(g)(2), finding this an improper basis for a ground in an IPR challenge).

The statutory scheme also supports the understanding that a petitioner is not estopped from raising system prior art under § 315(e)(2). Take the *ex parte* reexamination statute,² § 301(a), which limits the grounds for reexamination to “prior art consisting of patents or printed publications.” In *Qualcomm*, the Federal Circuit concluded that because § 301(a) and § 311(b) use the same limiting language, the two statutes should be interpreted in the same way. 24 F.4th at 1374. The Federal Circuit then applied its case law interpreting § 301(a) to interpret § 311(b). *Id.* Given this reasoning from *Qualcomm*, the Federal Circuit’s opinion in *Mikkelsen Graphic Engineering, Inc. v. Zund. America, Inc.* is particularly instructive on the scope of § 315(e)(2) estoppel. 541 F. App’x 964, 973–74 (Fed. Cir. 2013). There, the Federal Circuit explained that because § 301(a) limits its challenges to “arguments based on prior art patents or printed publications,” the “resulting estoppel” should be similarly limited.³ *Id.* The logic of *Qualcomm*

² This same statute, § 301, also applies to *inter partes* reexaminations filed before Sept. 16, 2012.

³ A previous version of § 315(c), as referenced in *Mikkelsen*, contained an estoppel provision similar to the current version of § 315(e). It estopped asserting “any ground which the third-party requester raised or could have raised during the [reexamination] proceedings.” § 315(c) (2006).

and *Mikkelsen* requires that the estoppel provision of § 315(e)(2) also be limited to non-system prior art grounds.

3. Congress explicitly limited IPRs to patents and printed publications rather than including prior art systems.

The corollary to § 311(b), § 321(b), governs the scope of post-grant review.⁴ Subsection 321(b) explicitly provides for petitions with grounds based on *any* invalidity defense that could be raised in district court—thus including invalidity on the grounds that system art anticipates or renders the claims obvious. In contrast, § 311(b) (quoted above) permits petitioners to raise grounds based on *only* patents and printed publications. Congress’s deliberate omission of system prior art from the scope of IPRs demonstrates that it intended the scope of IPRs to be narrower. *Dep’t of Homeland Sec. v. MacLean*, 574 U.S. 383, 391 (2015) (“Congress generally acts intentionally when it uses particular language in one section of a statute but omits it in another.” (citation omitted)); *see also Chemours Co. FC, LLC v. Daikin Indus., Ltd.*, 2022 WL 2643517, at *1–2 (D. Del. July 8, 2022) (holding that § 315(e)(2) does not apply to prior art systems, noting Congress’s omission of this prior art from being a permissible basis for an IPR ground). Ruling in favor of Singular that Google is estopped from raising system prior art would render meaningless the explicit distinction between § 321(b) and § 311(b).

4. Singular improperly seeks to preclude Google from using evidence describing system prior art.

Singular turns the statutory scheme on its head, looking to *the evidence* underlying a prior art ground as opposed to the *prior art itself*. This is a distinction with a difference. Although the

⁴ Like IPR, post-grant review is a mechanism Congress created when it passed the AIA that allows a third-party to challenge the patentability of issued patent claims. Unlike IPR, post-grant review is only available for patents subject to first-to-file provisions of the AIA. *See* AIA § 6(f)(2)(A). In other words, post-grant review is available for patents containing at least one claim with an effective filing date after the effective date of the AIA—March 16, 2013. Post-grant review is also only available within the first nine months after a patent issues.

estoppel clause of § 315(e)(2) bars a litigant from raising certain prior art *grounds*, it is silent as to the evidence underlying a ground. Under the statute, then, a defendant should not be estopped from relying on the same or related evidence of prior art disclosures, so long as it presents a *prior art ground that is not based on patents or printed publications that it actually raised or could have reasonably raised* in the IPR. Subsection 312(a), entitled “Petitions,” makes explicit this difference between “grounds” and “evidence that supports grounds” in an IPR. It expounds: “the petition” must “identif[y], in writing and with particularity, each claim challenged, the *grounds on which the challenge to each claim is based*, and the evidence that supports the grounds for the challenge to each claim.” § 312(a)(3) (emphasis added). And the Supreme Court has set forth this understanding of “grounds” and “evidence.” *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1353 (2018) (“The petition may request to cancel as unpatentable 1 or more claims of the patent on the ground that the claims are obvious or not novel. In doing so, the petition must identify each claim challenged, the grounds for the challenge, and the evidence supporting the challenge.” (citations, internal quotation marks, and brackets omitted)).

Here, while Google relies on certain documents as evidence of a prior art system that was made and used and/or to corroborate prior inventorship, the invalidity *grounds* that Google pursues before this Court—known or used (§ 102(a)), in public use (§ 102(b)), and prior invention (§ 102(g))—were never raised, and § 311 precluded them from being raised, in Google’s IPRs. Furthermore, as the Court recognized at the hearing, virtually all modern systems are described to some extent in patents or printed publications. But it does not follow that Google should be estopped from arguing invalidity over the system itself. Indeed, proving anticipation by a prior art system often involves presenting evidence from numerous documents and sometimes witnesses; that is altogether different from proving anticipation by demonstrating that a single printed

publication discloses all of the claim limitations. If estoppel were extended to systems by virtue of the publications evidencing them, the exception would swallow the rule. Because the plain language of the estoppel provision of § 315(e)(2) applies only to the grounds actually raised or that could have reasonably been raised, Singular’s motion—which seeks to estop Google from relying upon *evidence* of prior art systems, including evidence from printed publications—should be denied as a matter of law.

B. Google’s invalidity arguments rely on evidence of prior art systems that could not be raised during an IPR.

Given the statutory framework discussed above, the Court need not decide whether to adopt or endorse any rule that a party seeking to rely on system prior art at trial is estopped if the system prior art is cumulative of printed publications. But even if the court were inclined to endorse the “cumulative” exception, Singular has not—and cannot—meet its evidentiary burden of showing Google’s evidence is cumulative of printed publications.

1. The system prior art is evidenced by testimony, non-public documents, and other corroborating evidence beyond the printed publications.

Consider some of the non-documentary and non-public evidence relied on in the expert reports regarding Google’s anticipation and obviousness system prior art grounds:

- For the VFLOAT system: oral presentations, VHDL code, percipient witness testimony from Dr. Leaser, and non-public details about the public use of the system;
- For the CNAPS system: non-public materials produced in discovery and percipient witness deposition testimony from Dr. Hammerstrom;
- For the GRAPE-3 system: percipient witness testimony from Dr. Gustafson.

See Opp. at 8–12. For each of these references, and in every ground based on these references,

Google is relying on evidence that could not have been considered by the PTAB, and that is necessary and persuasive as to the lack of novelty and obviousness of the claims. *See id.* This is far beyond dressing up a printed publication ground as one based on a system—it *is* a system.

If this Court were to grant Singular’s motion, Google would be left with no forum in which to have raised these arguments. Google would not get “a second bite at the invalidity apple,” Dkt. No. 401 (“Reply”) at 9 (cleaned up); it would not even get a first. Nothing in the estoppel provision of § 315(e)(2)’s plain language or statutory structure suggests Congress intended to foreclose a party completely from *ever* raising the kind of evidence of prior art systems Google seeks to present here—evidence that speaks directly to issues the jury will consider about the scope and content of the prior art and its public availability. Indeed, the Court in *SiOnyx, LLC v. Hamamatsu Photonics K.K.* came to this same conclusion. 330 F. Supp. 3d 574, 603–04 (D. Mass. 2018); *see also* Opp. at 13–15.

2. Relying on printed publications in invalidity contentions does not mean a system is “per se cumulative” of the publications.

Singular’s only response is to apply its own novel legal standard for which it cites no support: “per se cumulative.” Reply at 10. According to Singular, because Google’s invalidity contentions cite printed publications in connection with each claim element, Google has conceded that all elements are fully disclosed in those printed publications.⁵ Not so. First, this position is belied by the invalidity contentions Singular cites, which explicitly state that the claim charts are exemplary only and representative of the content and teaching of the prior art *systems*.

Second, contentions by their own name are just that—notice of what a party *contends*, in

⁵ Under Singular’s logic, defendants should disclose the printed publications, but purposefully leave at least one claim element incomplete in order to avoid its newly invented “per se cumulative” rule. Google does not read the Court’s local rules and the Federal Rules as endorsing a system where the defendant discloses less information in their invalidity contentions in order to avoid estoppel.

order “to narrow the relevant issues, for a more efficient discovery practice.” *PetEdge, Inc. v. Fortress Sec. Sols., LLC*, 2016 WL 4148221, at *1 (D. Mass. Aug. 4, 2016). Here, Google cited various disclosures so as to give Singular notice of the details of the system prior art Google intended to raise.⁶ Google was not required to provide an exhaustive list of all the *evidence* of the prior art systems, especially where certain evidence was subsequently developed and supplemented by way of fact and expert discovery.⁷ Moreover, Google’s claim charts included disclosures related to obviousness and anticipation; that Google may have pointed to a disclosure in support of its obviousness case should not mean that Google is now estopped from relying on “superior and separate” disclosures in support of its anticipation grounds. *See Star Envirotech, Inc. v. Redline Detection, LLC*, 2015 WL 4744394, at *4 (C.D. Cal. Jan. 29, 2015).

3. Singular has not carried its burden of showing that the related printed publications disclose all of the claimed limitations.

Because printed publications cannot be “per se cumulative” (for the reasons explained above), and even assuming cumulateness is a valid judicial exception (contrary to the statutory framework), Singular has not carried its burden on summary judgment of demonstrating that any printed publication discloses all the limitations of the two asserted claims. Nor can it. Google’s contentions cite certain disclosures from documentary evidence related to the “exceeds” limitation⁸ of the asserted patents in support of its obviousness ground. But as Google explained in its opposition, “The number of [32-bit] execution units in the workstation that Dr. Leeser and

⁶ Google provided claim charts for each of its prior art systems. *See* Dkt. No. 377-14, 377-21, and 377-26 (Exs. K, R, and W).

⁷ Singular has never complained about the sufficiency of Google’s disclosures and accordingly, has conceded it had ample notice of Google’s theories.

⁸ Claim element [156f] in the ’156 patent claim chart and element [273d] in ’273 patent claim chart. *See* Dkt. No. 377-21 (Ex. R) at 13.

her graduate students used with VFLOAT is not explicitly disclosed in any of the materials that Singular claims are ‘printed publications’ that could have been asserted as the basis for IPR.” Opp. at 9 (citation omitted). Rather, that is something that Dr. Leeser will explain based on the workstation’s use of a Pentium III processor. *See generally* Dkt. No. 394 (Leeser Decl.). Singular has never even attempted to dispute that the actual evidence on which Google relies, made clear by its expert invalidity reports, is not cumulative of the printed publications related to VFLOAT.

As explained at the hearing, the same analysis applies to CNAPS, where the documents and testimony of Dan Hammerstrom—the founder and chip architect of CNAPS—address details about the system not contained in the printed publications (including the “exceeds” limitations). This includes the possibility of using different number formats with the CNAPS system and testimony about the design, operation, and function of the CNAPS system. *See* Opp. at 9–10. And the evidence related to GRAPE-3 also requires proof of different system details from different publications, in combination with percipient witness testimony. This includes the testimony of Dr. Gustafson regarding the public knowledge of the GRAPE-3 system to skilled artisans. *See generally* Dkt. No. 395 (Gustafson Decl.).

In sum, because Google intends to rely on evidence that § 311 prevented it from presenting in an IPR, and that is not cumulative of any such publication, Singular’s motion should be denied.

III. CONCLUSION

In view of the foregoing, Google respectfully respects that the Court deny Singular’s motion for summary judgment of validity and find that Google is not estopped from raising invalidity arguments based on the VFLOAT, CNAPS, and GRAPE-3 prior art systems.

Respectfully submitted,

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